

Research Notes

Program Steering Committee (PSC): Environmental

June 2014

Title: Develop Roadway Crossings for Sensitive Migratory Reptiles

Task Number: 2700

Start Date: 07/01/2014

Completion Date: 12/31/2019

Product Category: New or improved manual, handbook, guidelines or training.

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TITLE:

Develop Roadway Crossings for Sensitive Migratory Reptiles

This task will develop road crossing strategies for sensitive reptiles to promote sustainability and timely project development.

WHAT IS THE NEED?

Caltrans is required to mitigate for adverse impacts arising from the construction, maintenance, and operation of the state transportation system to Endangered, Threatened, and other sensitive reptiles. But, Caltrans lacks the critical information necessary to plan, design and construct cost effective sustainable highway crossings for these animals. Without appropriate guidance and designs Caltrans is challenged at times to meet its environmental obligations and obtain the permits and agreements necessary to construct highway projects within desired schedules.

Many reptiles require different habitats such as nesting habitat, foraging habitat, and wintering habitat to complete their life cycles. Thus, these species need to migrate. Easily traversable road crossings are needed for these animals when roads divide the necessary types of habitat. This task will develop the information necessary for Caltrans practitioners to design and install cost effective sustainable highway crossings for selected reptiles. The reptiles of interest to Caltrans include: Desert Tortoise, Western Pond Turtle, Giant Garter Snake, San Francisco Garter Snake, Alameda Whipsnake, Coast Horned Lizard and Blunt-nosed Leopard Lizard.

Areas of interest include road crossing materials, road crossing dimensions, ecological conditions within road crossings, means for preventing reptile access to shoulders and pavement, and how to integrate reptile road crossings with crossings for other kinds of wildlife.

This task relates to the project as a whole in that the sensitive reptiles are major taxa of concern.

WHAT ARE WE DOING?

The research will develop, validate, and produce guidance for cost-effective ways that sensitive reptile taxa can use to cross roads. Reptile road crossing designs will be developed based on the existing literature and the animals' biology. The designs will be validated by field-testing under realistic highway conditions. The validation will gather statistically robust data and rigorously analyze this data to discover if reptiles are crossing through the highways with sufficient frequency to maintain healthy populations.

WHAT IS OUR GOAL?

This task will develop the information necessary for Caltrans practitioners to design and install cost effective sustainable highway crossings for selected sensitive reptiles. Guidance materials for road crossings for these reptiles will be developed for use by Caltrans personnel. The effectiveness of reptile crossing structures will be examined.

WHAT IS THE BENEFIT?

This task will develop road crossing information and guidance documentation for selected sensitive reptiles]s that will help the Caltrans meet its obligations under environmental law and regulations in a cost effective manner. This will help expedite the completion of transportation projects. Additionally, this task will help Caltrans practitioners select materials and designs for reptile crossings that are durable and promote the sustainability of the transportation infrastructure as well as ecological sustainability.

WHAT IS THE PROGRESS TO DATE?

This task has not started. The next activities are to begin the task and perform a call for submissions.